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SCHOOL AND SOCIETY

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SCHOOL AND SOCIETY

EDITED BY J. McKEEN CATTELL

WITH WHICH IS COMBINED THE

EDUCATIONAL REVIEW

EDITED BY WILLIAM McANDREW

Volume XXXII SATURDAY, SEPTEMBER 27, 1930 Number 822

WHAT IS THE FUTURE OF PROFESSIONAL AND LIBERAL EDUCATIONS?

By Professor DAVID SNEDDEN

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

IN SCHOOL AND SOCIETY for July 19, 1930, President Rainey, of Franklin College, presented an excellently analyzed discussion of the above topic. No exception can be taken to most of President Rainey's statements of fact. But to the present writer several of his inferences are very far indeed from adequate.

I

The first of these wrong inferences is this: "The facts seem to indicate that professional education has already or is rapidly approaching a saturation point." In support of this conclusion Dr. Rainey adduces data as to the large proportions of physicians in America as compared with other countries; as to recent decreases in enrolment in agricultural colleges; as to some decreases and only a few moderate increases in the several fields of engineering educations, and as to the present oversupply of teachers. In fact: "The percentage of enrolment in all professional courses [in the land-grant colleges?] has decreased from 59 to 28 since 1913, while the total enrolment has increased 350 per cent."

Or, as Dr. Rainey indicates elsewhere in the same article: "It is evident from these facts that the real expansion in higher education is occurring in the field of general education, and there is every reason to believe that if education continues to expand the expansion will occur largely in this field."

Now it has been obvious to any careful observer that for many years diminishing rather than increasing proportions of all men and women entering liberal colleges eventually find their ways into those older and highly standardized vocations called *professions*. But into what vocations do the rest finally gravitate? Very few of such students ever enter the trades, and perhaps still fewer become "dirt" farmers. But we do know that countless thousands of them enter the hundreds of channels of business, journalism, artistic production, literary work, social work, navigation and scores of other departments offering rewards and opportunities no less great than those of the older professions.

And what Dr. Rainey overlooks is the rapid growth in recent years, either within or just without, our university aggregations of scores of kinds of vocational schools to serve candidates for those vocations which are in effect the newer professions. Columbia University in 1929 conferred more degrees in library service than in

medicine, more in journalism than in dentistry, and more bachelor of science degrees in business than in engineering. It conferred six degrees in optometry, fourteen in architecture and one hundred and eleven in pharmacy. Besides these the university has cooperative relations with agencies giving professional training for several lines of "social work," fine arts, music, nursing service, industrial engineering and others. And, of course, this university has no professional schools of forestry, navigation, oil engineering, textile engineering, fiction writing, diplomatic service, photography, military leadership, life insurance selling or hotel management—as have some other universities.

Besides the foregoing, the university of to-morrow will in some degree have so differentiated objectives and means of training for many other vocations as to evolve in effect professional colleges for the training of statisticians, dieticians, health officers, personnel managers, department store buyers, textile designers, factory inspectors, bank technicians, advertisers and probably scores of others.

The simple fact is that the development of professional colleges of new types still lags greatly in our universities when judged against public demands for superior service in hundreds of fields. One lamentable result of this backwardness is that the thousands of young men and women taking general or liberal arts courses in liberal colleges and the so-called "arts and sciences" departments of state universities, who do not feel themselves destined for the already well-standardized professions, are perpetually and to a large extent futilely groping after "courses" which for them will function in some degree towards giving preparation for the higher and more attractive vocations. And, to the pedagogic disgrace of the majority of our professors of English, chemistry, graphic art, French, economics, biology, geology and the rest these are hardly less insistently, and probably no less misleadingly, suggesting to the students that their pet courses will somehow help towards entrance to, and advancement within, a variety of alluring vocations.

In general, then, the vocations ultimately to be followed by all those young persons having the abilities and other resources to prolong their full-time school educations to twenty or more years will tend more and more to be in effect professions; and, increasingly, progressive educators may be expected to develop systems of school-concentrated vocational educations for them in lieu of the excessively prolonged, excessively wasteful and excessively haphazard vocational learnings heretofore derived from extra-school sources.

II

But, in the estimation of the present writer, a second set of inferences made by Dr. Rainey in the article referred to are even more mistaken and more damaging in their implications than those discussed above. He reiterates with considerable emphasis and detail the ancient academic fallacies that general or liberal college courses serve in important measure either as "background" or as "pre-professional" preparations for particularized professional study. He says:

> In the first place, practically all the major professions are in a position by virtue of a surplus of candidates where they can and are demanding more and more of a background in general education for entrance into professional training in their respective fields. . . . With the country overrun with poor lawyers what point would there be to stop general education and pre-professional preparation at the junior college level? . . . The demands upon professional leaders are so great today that it is impossible to prepare them for their [professional] training in the junior college.

The logical pitfall of reasoning *post hoc ergo propter hoc* has trapped unwary com-

mentators in this field for a long time. We probably have as yet had no objective evidence to prove that a hundred men holding A. B. degrees will make superior students of medicine in contrast with a hundred who have had but two years of liberal or pre-professional studies; but that the former would prove superior will certainly be inferred by any close observer of the highly selective effects of each successive year of secondary and collegiate school attendance. "If a medical school has four hundred applications for one hundred places it is to be expected that it will select the one hundred best prepared to do its work." Rightly so; and if the medical college have no other information about the candidates except the duration and grades of their general studies it will select the best of the degree holders. But is it in reality thus giving its approval to their *training* or is it not rather taking advantage of the *highly selective processes* by which only superior native abilities succeed to the point of winning degrees?

Of course professional colleges have large social obligations to select and train persons possessing optimum native and acquired qualities for the professions in view. But in using several years of what to many very able candidates may prove dreary and excessively expensive general studies as *means* of such selection it is submitted that the professional colleges may be using procedures no more efficient or economical than the original processes of obtaining roast pig as told us by Lamb.

It is probable, in fact, as the present writer, after some years of educational values, is convinced, that only vague and unreal educational superstitions lie back of such fetishistic phrases as "a broad background in general education," "a broad training in fundamentals" and "pre-professional preparation." When measured against realistic programs for the training of competent electrical engineers, pharmacists, secondary school teachers of mathematics and physics, lawyers and Methodist ministers do such phrases really mean anything?

Far more wise, in the present writer's estimation, is President Lowell's contention: "For many, perhaps for most, young Americans professional training had better begin at the close of secondary instruction."[1]

III

Now the writer is not laboring the above considerations because of his solicitude for American vocational colleges. He believes them to be amply able to improve their own standards of selection and training as sound public policy requires, except in those cases, to be referred to later, where subject-matter specialists of strongly academic traditions exercise large influence in faculty councils.

No, the present writer's solicitude is for more adequate recognition of the true functions of the liberal college, whether the two-year "junior" liberal college or the four-year "senior" liberal college—or even that maze of supposedly liberal courses organized in some universities as "departments" of arts and sciences or under other nearly equivalent designations.

The present low condition of liberal education in the United States is primarily due, in the writer's estimation, to the misguided and persistent attempts of all sorts of well-meaning persons to make it the hand-maid of vocational success. The professors of French, of English, of economics, of history, of art, of mathematics and all the rest are so eager to have their specialties recognized as "pre-professional," as contributing functionally to "a broader background" or as giving "broad training in the fundamentals" that they, and even more, their disciples have lost sight of the

[1] *Journal of Higher Education*, February, 1930, p. 65.

very fundamental fact that in its truest sense "good liberal education" should have, and in the last analysis, can have, no money value whatever. But even professors of Latin are from time to time lured into arguing how important Latin is for the prospective physician, lawyer or research biologist!

Let us return to President Lowell's paper for purposes of ampler quotation:

> This criticism [of the American liberal college] has had too much foundation; and, if the desire of undergraduates for a sound education can not be increased over what it has been, the American college, in spite of its present vogue, will not endure. Some universities have indeed proposed to give up the freshman and sophomore years, leaving them to junior colleges—in other words, to continuation secondary schools—devoting the university to such studies as professional law and medicine, and to the graduate school, which is essentially a preparation for teaching and research in an academic career.
>
> Such a proposal is, virtually, to give up the American college as part of the university. No one should object to it, least of all those of us who believe in experiments in education. For many, perhaps for most, young Americans professional training had better begin at the close of secondary instruction; but for those who expect to go far, to work in a large way, to live on a higher intellectual plane, this is not enough; nor is it in their case only a selfish ambition. For the country it is extremely important that as many of its citizens as possible be highly educated, possess the largeness of view that comes from familiarity with what men have done and thought, and what men are doing and thinking, what our complex civilization has become and how it came to pass.

President Lowell is here contending, if the writer interprets him correctly, that a prolonged and excellent *liberal education* is highly valuable to a man and to his country *irrespective of the vocation he follows*. Any country or people prizing superior culture, superior public service, superior devotion to the fine achievements and ideals of civilization will strive to have as many as possible of its abler men and women take ample and rich *liberal* education, not only between fourteen and eighteen, but also between eighteen and twenty or twenty-two years of age, quite without regard as to whether later they are to earn their livings and do their respective portions of the world's work as farmers or physicians, business executives or technicians, salesmen or teachers of Latin, homemakers or nurses, librarians or miners of coal.

In other words, if America wishes to realize the full possible fruits of the present faint revivals of true liberal educations found in some experimenting institutions, it will be necessary to develop among the leaders the determination that no longer shall the agencies and the means of liberal education be prostituted to the commercial (and largely illusory at that) services of vocational education.

But let no one draw the inference from the above that the educations which prepare for the professional—or any other—vocations are any less worthy of respect or public support than those which enhance culture, civism and other non-vocational powers. In the practical theology of our day Mammon may fill no less important a rôle in the life of the average man than does God; but it is just as true now as of old that in the human and earthly ways which we must all follow in part man can not *at the same time and by the same means* serve God and Mammon. He can not by the same act render unto Caesar and unto God that which is due to each.

The practical program which the writer proposes is this. Let every supposedly *liberal* college—of two or four years, or as submerged in a department of arts and sciences—develop its scheme of educational values, its objectives and its courses strictly towards realization of non-vocational social values. Let each vocational school or college, having defined *its* objectives in strictly vocational terms, set up whatever admis-

sion requirements are demonstrably functional towards realization of its *vocational* ends. Let it be held as an impertinence on the part of vocational schools to impose *any* requirements—of liberal schooling or anything else—not strictly relevant to realization of its objectives.

President Rainey is right in his contention that "the enormous increase of wealth and leisure . . . [is] working very definitely to increase the demand for more general or liberal education"—provided it is genuinely liberalizing, and not the pseudo varieties so often still the only offerings of our excessively departmentalized organizations.

THE CONTRIBUTION OF RESEARCH TO SECONDARY SCHOOL CURRICULUM CONSTRUCTION

By HARL R. DOUGLASS

PROFESSOR OF EDUCATION, UNIVERSITY OF MINNESOTA

CHARTERS has written somewhere—just where I can not recall—that the selection and arrangement of the materials of instruction may seem to the casual and superficial thinker to be a relatively simple matter. By way of illustration of how inaccurate such a view surely is he cites an anecdote in which a great painter (Whistler, I believe) replied to an expression of admiration by a friend that "it was, after all, a simple matter; one merely selected the appropriate colors and placed them in the proper place upon the canvas." In curriculum construction one has merely to decide what materials should be taught and to decide where to place them in the curriculum.

It may seem odd that so important a matter as selecting and arranging the materials of instruction should have been attacked with modern research procedures and techniques only after such methods had been previously applied to other phases of the scientific study of education. The focal point of the study of education seems to rotate in cycle fashion. Following a period in which "child study" received the lion's share of attention, the last twenty years have witnessed the direction of heavy firing on the front of educational measurements and statistical methods. Tests and statistical methods have, in the last few years, been reduced to a part of the regular equipment for teaching, administration and the study of education. School people have become familiar with them and well acquainted with their possibilities and limitations. The favorite type of bid for leadership by those who, taking advantage of the relative ignorance of the masses, invested those procedures with such weaknesses as, in the light of their own limited background, seemed plausible, was to attack those mythical and therefore defenseless fallacies. But this practice has become hazardous in that it is more likely to demonstrate ignorance than mental acumen. The initial period of discovery and exploitation of that field is passing.

Beginning about 1920, there has been a gradual shift of artillery to a front which is now being occupied for concentrated attack—namely, that of the scientific study of instructional materials and methods. Tests and statistical methods have been catalogued as fields in which the strategic points have been won and vantage-points from which the attack of fields still in the hands of the enemy (speculation) may be directed.

The more or less constant running fire

of small arms which has been going on for decades in this new area has not proved very effective. The lag of curriculum and methods behind the rapidly changing social and individual needs has widened rather than narrowed. While significant changes may be observed to have taken place in the materials of instruction in secondary schools in the last century, it is not certain that all these changes have made for improvement. It seems quite certain that they have not kept step with changes in the social, economic and scientific developments in American society and with the changes in the character of the school population for whom the curriculum is intended.

The curriculum has been relatively static —perhaps in both senses of the word. The late Samuel Chester Parker once stated that the geometry taught in secondary schools to-day is not essentially different from the original Euclid, and that some recent text-books in geometry were perhaps less well adapted to their purposes than a good translation of Euclid.

The forces contributing to this condition include several which are not difficult to throw into relief. Prominent among these has been the conservative influence of the humanistic element of the traditional arts college, clinging stubbornly to faith in tradition and discredited theories of learning and of educational values. As judged by changes in college entrance requirements, this Chinese wall erected against modern versions of truth is slowly but surely crumbling and giving way before the results of scientific investigation.

But another conservative influence is serving as a second and more impregnable line of defense. National uniformity has rendered the American ladder system of education unwieldy and offers passive but solid resistance to change. An excellent example may be cited from the field of mathematics. For twenty years correlated and unified mathematics, including arithmetic, algebra, geometry and trigonometry, has received approval of the better qualified theorists in mathematical curriculum thinking; yet recent text-books in junior high school mathematics are little more than two years of arithmetic and one year of algebra. The most recent products of authors who have been regarded as leaders in the movement for unified mathematics have been a keen disappointment to those who had been expecting a series of books patterned after the theories of these authors as expressed in their discussions appearing in the *Mathematics Teacher* and elsewhere. Books which involve material departure from the traditional content uniformly obtaining in secondary schools in this country are not good risks for publishers. Publishers are more interested in books that will sell widely. That is natural. Text-books the use of which necessitates study and revision of courses on the part of busy, half-trained teachers, half or more of whom are novices, apprentices in their first five years of experience, do not make strong bids for state adoption and appeal only to a restricted field. Contributing heavily to this inertia is the conservatism of school administrators and of the lay public. Administrators are not uniformly close and careful students of curriculum research and thinking. In large numbers they lack both time and background for judging curriculum suggestions in all fields on the basis of their merits. They are loath to abandon beaten paths (on which they, if wrong, are at least not conspicuous) in favor of new theories and practices, until such theories and practices have proved themselves. But there is the rub—the difficulty of proving the ultimate superiority of alleged improved curriculum materials is indeed a baffling problem. The attitude of the school public is much like that of interested alumni towards intercol-

legiate athletics, interested but improperly prepared to arrive at the judgments which are made so freely and vigorously, the freedom and vigor being in inverse relationship to the orientation and background from which they spring. Innovations, to them, are likely to be thought of as degeneration from the good old standards—the curriculum that "made" great statesmen, authors, scientists and college presidents.

But most unfortunate of all is the lack of a body of scientific curriculum information based upon researches involving reliable and valid data. Proposed changes in the curriculum have largely been subjective and deductive conclusions arrived at by small groups of the "best minds." The value of such an approach should not be underestimated. There are many curriculum problems which lie so close to the surface that their solution requires no complicated research procedures, no gathering of bodies of new data and no refined statistical or other intricate methods of reasoning. A clear, keen mind and a rich experience suffice. An example of such problems is the question whether there should be retained in the ninth grade mathematics certain processes in algebra known to be rarely employed and of little or no value in the pursuit of the study of higher mathematics. Similar examples of such an approach might easily be cited from other fields. Without doubt much progress may be made by the use of empirical methods which involve no research. If it were not so practically all curriculum construction and revision of the past would be valueless. But the territory which may be safely occupied by empirical methods is quickly exhausted. It seems quite clear that the study of education, the study of all applied sciences, quickly reaches a point beyond which the extension of the bounds of truth may take place only by the employment of more refined and intricate techniques. Advancement in astronomy, physics, chemistry, medicine, plant and animal physiology, economics and mathematics stood practically still for well over a thousand years—from the times of Aristotle, Galen, Euclid and Archimedes until the opening of the present period of research, of refined techniques and scientific instruments. In other words, the great minds of Aristotle, Galen, Euclid and Archimedes and their contemporaries quickly reached the limits of their methods and techniques of approach, beyond which their successors did not progress. Not until research instruments and methods—the telescope, microscope, the X-ray, the inductive and the experimental methods—were developed and employed was it possible to make the great advances in scientific knowledge upon which present-day civilization is constructed. Were time available a similar sequence of development might be traced in detail in the development of the curriculum of secondary schools. From time to time the curriculum seemed to get so badly out of kilter that procedures for effecting improvement seemed obvious. If that may be called progress, then progress has often resulted from that type of approach.

Much good has resulted from the work of the Committee of Ten and of the numerous committees which followed in the nineties and the early part of the present century, including the work of the various committees of the Commission on Reorganization of Secondary Education, as well as the National Committee of Mathematical Requirements, the Classical Investigation and the Modern Language Study. On the other hand, the possibility that the conclusions of the "best minds," as embodied in the reports of such committees, based as they are upon empirical data, might be erroneous is altogether too great to permit us to accept them as final. We

can not but recall that the contributions of such methods to natural science were shot through with error. As David Starr Jordan has been wont to say when discussing the contributions of empirical methods to science, there never was a period when we knew more than in the thirteenth century, but practically all that we knew was wrong. The fact that, with minor exceptions, they tend to justify instructional materials introduced into the curriculum at a time when the nature of society, the aims of secondary education and the pupil personnel of schools were so different from those of the present tends to arouse suspicion. At any rate, the inclusion of instructional materials should be verified by the data and conclusions of scientific research.

The difficulties of applying research methods to problems of the curriculum are great and discouraging—much greater than those attending the application of research methods to the natural sciences. Four very important types of difficulty confront us. In the first place, it is questionable whether we can determine by research method or any other methods what is the ultimate good by which all procedures may be measured. Philosophy has for centuries been devoted to the question of the ultimate good and apparently is little closer now to a solution than at any previous time. We have almost as many hypotheses as there are philosophers.

Secondly, we are confronted with the necessity of devising means of shortening the span between cause and effect—between curriculum and conduct. The logical scale of measurement of the effects of any unit or arrangement of instructional materials is the change effected in conduct through life. It is not practical to attempt to measure any great portion of the effects of instruction on conduct of a group of individuals throughout their lives, were we able theoretically to do so. There must be devised some practical procedures. In so doing we are most likely to be compelled to employ empirical and deductive methods to bridge the gap between the ideal criterion and practical criteria—a situation not to be desired.

In the third place, except as we confine each project of curriculum research to specialized, logical rather than natural, fields of subject-matter, mathematics, French, etc., and measure by means of the peculiar contributions of such subjects, we are confronted with the discouraging task of attempting to disentangle the effects of the instructional materials under study from other instructional materials and from the effects of other elements on the environment of the subjects of the experiment. While it is not entirely impossible to do so, the difficulty in holding constant all other stimuli calculated to affect learning of the types by which the effects of the experimental variable will be judged is so great that the number of experiments of broad scope will, of necessity, be much smaller than is desirable.

Lastly, projects of curriculum research have been quite severely limited in their scope by the formal machinery developed for selecting college graduates and for determining upon whom diplomas of graduation shall be bestowed. College entrance requirements are stated in terms of so many units of English, of foreign language, of mathematics and other subjects. No public secondary school would dare to set up an experiment which would automatically make it impossible for its graduates to accumulate the units required for college entrance, even though it may be proved (as it seems almost certain it soon will be) that success in college has no relationship to the number of units of high-school credit in any subject presented for entrance to college. It seems that unless

special dispensation were obtained no private or denominational school could afford to conduct such an experiment. The most promising experimental schools founded for such a purpose in this country, for some reason or other, have not ventured far from a curriculum organization which is essentially traditional and college preparatory.

Yet, perhaps, the apparent hopelessness of the situation is no greater than that which obtained in natural science a century ago. At that time it seemed very improbable that research would ever bring us to the solution of many problems. I need not more than remind you that even among learned men very positive skepticism prevailed concerning the possibility of developing present-day modes of transportation, communication, chemical and mechanical manufacturing. The radio was much more unthinkable thirty years ago than methods of reliable valid curriculum research today. Fifty years ago the methods of the X-ray and other means of scientific diagnosis in the practice of medicine were not even dreamed of except by a small group of individuals, probably thought of as visionaries, if not as a little "off."

The secondary school curriculum, like the natural science of two centuries ago, is in dire need of a number of large-unit researches carried on on a large scale over a period of years—researches of such scope that they do not involve presumption of an arbitrary, outworn foundation. In the psychology of growth it became obvious that supplementing the favorite dictum of superficial psychology with questionable results of superficial research did not settle questions, and a continuous, large-unit study, such as that now being conducted by the Harvard Clinic, has seemed essential to substantial extension of knowledge in that field. Similarly in the matter of the curriculum it seems that we have reached the stage where it should be obvious that neither the combined dicta of best minds nor the short-time, narrow-range researches meet the present needs. Once the question of the framework of the high-school curriculum is placed on a sound and scientific basis, it will then be in order to weave into it by small accretions the details which may result from smaller studies.

Without appearing unappreciative of the desirability of careful researches in restricted fields, is it not fair to raise the question whether we have not so far outgrown the curriculum made up of the logical divisions of human knowledge for a type of pupil and an institution no longer representative of the present that further minor repairs seem futile? Does not thoroughgoing experimentation on a large scale seem desirable—experimentation that sets for its objective not the adaptation of ready-made bodies of facts so that they may make their maximum contribution to educational needs, but the setting up of an environment from whatever source is most favorable as the stimulus and medium of mental, physical and moral growth toward the objectives of secondary education?

What might not be added to human knowledge if, in a single school, there might be tried out over a period of years a curriculum consistent with a view only to the needs of present-day living, worked out completely independently of old subjects, organization of old subject-matter divisions, old traditions and old prejudices—a course of study calculated to surround the pupils of that school with opportunities for and stimuli to activities leveled directly at health and understanding of the world about us—its economic, political and industrial institutions, its organic and inorganic content, other people and other animals and plants—at human qualities which make for a real, successful democracy founded on good-will and fair dealing, at

abilities making for clear thinking, at those fundamental skills which are necessary for effective intercommunication and at interests which not only make for human solidarity but also those which insure joyous and profitable expenditure of leisure. Such a school might not insure mastery of complicated mathematical tools and processes used only by a few, or of the grammar of foreign languages or of facts *ad infinitum* of various types now thought to be synonymous with education. Yet it might well include any or all of these if they should seem to contribute heavily to the real purpose of secondary education. Compared to such an experiment which, it seems certain, under no circumstances could do serious damage to any one concerned, curriculum researches aimed at discovering whether the "Merchant of Venice" should be taught in the eighth grade or in the ninth, what is the best teaching organization of units in first year algebra, the trend of modern text-books in geometry, recent changes in the teaching of first year Latin seem futile and hamstrung.

It may be argued that such a school is an impossibility, that its graduates could not enter college, that there are not available suitable text-books and that teachers would be confused. Such an experiment should not be intended as an easy road to curriculum truth; it is probable that the complete formulation of such an experiment would require much and continued thought—"sweating blood"—in an effort to set it up as a going experiment. But the superior possibilities of such experiments for enabling us to free ourselves from the tether that binds us to an old order circumscribing our possible discoveries are so immense that we could hardly expect the project to be simple. Many types of opportunities for measuring the results of such an experiment stand at hand, instruments for measuring progress and for revising and perfecting the experimental variable. Unfortunately those interesting experimental schools which have ventured a little further from the beaten path have not sought to avail themselves of these. That they are available is not open to question.

Can it be possible that whatever changes take place in the nature of society, its activities and problems, in the objectives set up for secondary education, in the pupil constituency of secondary schools or in the contributions of other agencies to the objectives of secondary education, we are bound by faith, inertia or fear to confine curriculum revision to a remodeling of the old heirloom? Some one has aptly pointed out that the dead past can not bury its dead since the dead past will not be buried but stalks among the living, binding the living to the dead. Is it not possible that, realizing the hopelessness of tinkering and reconditioning an old model which was adapted to an age now past, we can, through research, build up a new secondary school curriculum adapted to the age in which we live and its problems, our modern conceptions of the objectives of secondary education, modern psychology of learning and the present constituency of American secondary schools?

EDUCATIONAL EVENTS

EDUCATION ON THE CANAL BARGES IN LONDON

A REPORT submitted to the meeting of the London County Council Education Committee on July 23 dealt with the educational facilities for children residing on barges used on the canals in London.

There are at present two classes for canal boatmen's children, and they are held in rooms of the Canal Boatmen's Institute at Paddington. On March 31, 1930, the roll was fifty-four boys and forty-six girls, and seventy of these children were under the age of eleven. Attendances were not so good as in previous years,

partly, said the report, because attendance is not compulsory unless the boats are registered in London, but chiefly because many firms using the canal are removing their headquarters to West Drayton, outside the county. Apart from a very small number of children on boats which sometimes stay less than twenty-four hours at Paddington, practically all the children living on the boats attend the school. The report continues:

Considering the difficulties, the attainments of the children are reasonably good, especially in handiwork, in which they are keenly interested; but it is impossible that they should be equal to those of children of the same age in regular attendance at school. The chief difficulty is reading; once that is mastered, it becomes possible to arrange for individual work and private study to be done on the boat, but it is very difficult to master the art of reading without regular practice, which is just what these children can not, or rather do not, have. It is significant that the younger children are making better progress than their predecessors and elders. This is probably due first to the fact that the younger children are more amenable to school discipline than their brothers and sisters were, so that they are easier to teach, and secondly to the fact that the teachers are using more modern methods, involving individual work, which are peculiarly suitable for children of such different ages and attainments as compose these classes. We are exploring certain suggestions which have been made to us with a view to securing a greater degree of continuity of instruction for these children.

On the whole, the general health of these children is good—which is fortunate since one of the great problems is to get any definite treatment owing to the short period that the barges are in the wharf, sometimes only twenty-four hours or even less. The school nurse has followed up cases, assisted by the head teacher, and has been very successful in such cases as those requiring dental treatment, when it has been possible to take them to a center; but where continuity of treatment is necessary the position seems hopeless especially in the case of the long-distance boats. But lately, it is stated, the church army missioner has persuaded many of this barge population to subscribe to the Hospital Saving Association and there is now much less reluctance to attend hospital as the parents feel "they should get some return for their outlay." On the whole, these barge children are very lovable, anxious to help each other and primitive in many ways, with a strong clan feeling. Much excellent and devoted work has been and is being done by the teaching staff of the school and by the school nurse, notwithstanding the difficult conditions.

THE STUART MEMORIAL COLLEGE IN PERSIA

WE learn from *The Christian Science Monitor* that the Persian Government is developing a comprehensive educational scheme for boys and girls, and scores of students are sent annually to foreign countries for higher education.

The Stuart Memorial College, Isfahan, was reopened by the Church Missionary Society after the World War, in memory of Bishop Stuart. It is the only institution in Persia which offers education on the lines of an English public school. The head master is the Reverend W. J. Thompson, and there are four other Englishmen on the staff, all Oxford or Cambridge graduates. There are in addition Persian and Armenian teachers.

The college offers to the boys and young men of Persia an education which aims at giving them a world-wide outlook, as well as fitting them to be true men and loyal Persians, ready to fulfil the responsible duties of life and citizenship. The college offers a real contribution to character in developing thoroughness, uprightness and public spirit, qualities vitally important for any country when it is realizing the need for reform and advance.

The Stuart Memorial College is open to boys of good character, irrespective of race or creed. In view of the variety of religious opinions, the rule is strictly enforced that there shall be no religious controversy. Pupils are taught to respect the religious convictions of those from whom they differ. At the same time, it is a Christian college, and positive teaching of the Christian faith is included in the curriculum. No pressure is brought to bear on non-Christian pupils to become Christians, but all are encouraged to think earnestly, with an honest desire to find the truth and follow it.

The value of games is realized, and the Stuart Memorial College has extensive grounds for football, hockey, tennis and physical drill. All pupils are expected to take part.

A holiday camp is also maintained during the

summer vacation on the lines of the Universities' Camps for Public Schoolboys in England.

The boarding school is characteristic of the best in Western education, affording opportunities for the development of *esprit de corps*. Hostel accommodation is provided for pupils, especially those whose homes are at a distance.

The college has passed the experimental stages and has proved itself a success. English is compulsory for senior boys, many of whom are destined for the government service and others for the Imperial Bank of Persia and the Anglo-Persian Oil Company.

PSYCHOLOGICAL TESTS OF MECHANICAL ABILITY

A CORRESPONDENT writes that results of value for vocational education have been gathered together by a group of psychologists at the University of Minnesota who have now completed a period of four years' research in the field of mechanical ability.

The work was done mainly with junior-high-school boys of Minneapolis, whose course includes compulsory training in shop practice. The investigators found that "mechanical ability," which was defined as that which enables a person to succeed in a restricted range of vocational and trade-school courses, was a unique trait, not depending on abstract intelligence, motor agility or physical strength, and that it was also practically independent of such factors as sex and environment. While a high degree of correspondence was found to exist between the mechanical ability of fathers and sons, there was not much relation between general environmental features and mechanical ability. Girls who were given the tests were in only one instance markedly inferior to boys. Children who lacked the intelligence necessary for mental work were in many cases shown to possess superior mechanical ability.

With these results in mind, the investigators suggested that the mechanical ability tests which they have now organized might be given to immigrants entering this country, with a view to their placement in trades where they would have a greater chance of success than would be possible under the present haphazard system. The chief importance of the tests is, however, in relation to vocational training. The examiners have tried out all previously existing tests for mechanical ability and carefully weeded out the surviving tests in order to keep only the most valid and reliable ones. The resulting battery of tests provides a means whereby there is reasonable hope for the prediction of success or failure for a student entering the field of mechanical work.

The research was directed by Professors Donald G. Paterson and Richard M. Elliott. L. Dewey Anderson acted as chief investigator, Herbert A. Toops as statistical consultant and Edna Heidbreder as editor of the report, which will shortly be published in the form of a book entitled the "Minnesota Mechanical Ability Tests."

EDUCATION BY RADIO IN WISCONSIN

ACCORDING to information sent from the University of Wisconsin, teaching by radio has been found to be entirely practical, and in at least two courses of study the results gained were better than those that naturally follow from classroom instruction. A survey was recently made by three professors, Professor E. B. Gordon, of the school of music; Professor John Guy Fowlkes, of the school of education, and Professor Henry L. Ewbank, of the department of speech. They were aided by Miss Mary Webb, research assistant in education.

Two courses of study, music and current events, were taught by radio in making the survey, according to the report made recently. More than 500 school children in a large number of Wisconsin grade schools listened to the instruction broadcast to them over the radio, and then took their final examinations, which showed that in the teaching of music, the radio is decidedly superior to direct classroom instruction. In the teaching of current events, although the results gained were not quite so decisive, the tendency was in favor of the radio.

To gain the comparative values of teaching by radio and by direct instruction, 25 schools in Wisconsin installed radios, while 25 others continued their direct classroom instruction. Identical instruction and tests were given to each of these groups.

In teaching the music course, the class in music at the university under the direction of Professor Gordon made visits to many of the

schools taking part in the experiment. In addition, the children in each of the schools in which radios were installed kept music scrapbooks. Classes were held on Tuesdays and Thursdays of each week for nine weeks, from 1:00 to 1:20 in the afternoon.

The results showed that children could learn to sing two-part songs over the radio, and that by such instruction they gained a large appreciation of music and a knowledge of musical instruments. They also learned rhythm work and became acquainted with the music field through music news items.

By the application of the same examination before and after the nine weeks' music course, it was definitely established that in all the schools the children's knowledge of music more than doubled, and that those students who took their instruction by radio had been much more successful in their learning than those who had more direct teaching.

In the teaching of current events, those groups of students who were taught by radio were also given the *Current Events* magazine from which to gain their knowledge, but their teachers were directed not to give them any additional instruction. The remaining 25 groups of students had the *Current Events* magazine also, and the additional aid of the teacher's instruction, but not the radio. Those who were given radio instruction listened to talks based on material in the *Current Events* magazine given by graduate students of the speech and education departments of the university. The instructions were given on Mondays, Wednesdays and Fridays of each week, also for nine weeks, from 1:00 to 1:15 in the afternoon.

For their final examination, the students were given a true and false test consisting of 100 questions, 50 of which were based on the magazine entirely, with the remaining 50 based on the remarks of the radio speakers. The results showed that those who had been instructed by radio were more familiar with current events than those who had been given classroom instruction. The difference was not as large as in the music experiment, but showed a decided tendency in favor of teaching current events by radio.

NEW FACULTY APPOINTMENTS AT THE UNIVERSITY OF SOUTHERN CALIFORNIA

MORE than ninety new appointments to the teaching and administrative staff of the University of Southern California have been announced by George I. Cochran, president of the board of trustees.

The following professors, instructors and assistants will serve at Southern California beginning with the fall semester of the academic year 1930–31.

School of Education: Dr. Norman Fenton, professor of education; Benjamin R. Haynes, assistant professor of commercial education; M. E. Broom and Dr. Carlton Mann, lecturers; R. O. Reimer, Arthur S. Taylor and Clinton C. Trillingham, fellows in education.

School of Philosophy: Dr. Edwin D. Starbuck, professor of philosophy and director of the Institute of Character Research; Dr. F. R. A. Hoernlé, professor of philosophy; Dr. D. Willard Lyon, exchange professor of Chinese philosophy; Dr. H. L. Searles, associate professor of philosophy; Tom H. Tuttle, research fellow in philosophy.

School of Law: William Green Hale, acting dean; Austin T. Wright, Dr. Harold Kraft and Arthur J. O'Keeffe, Jr., professors and instructors.

School of Medicine: Dr. Daniel B. MacCallum, assistant professor of anatomy; Dr. Howard F. West, clinical professor of medicine; Dr. John C. Ruddock, Dr. Bertrand Smith, Dr. Arthur S. Granger and Dr. Roy E. Thomas, assistant clinical professors of medicine; Roy T. Fiske, assistant in bacteriology.

School of Social Welfare: Willard H. Ross.

School of Architecture: Bartolomey Mako, instructor in modeling and sculpture.

School of Speech: Frederick Warde, honorary member of the faculty; Bates Booth, professor of debating; Cloyde Dalzell, assistant professor of speech.

College of Letters, Arts and Sciences: Frank C. Baxter, Robert Morrison, Grace Brown, Dr. G. Garland Greever and Orma C. Burns, department of English language and literature; Jean Morel, French; Dr. George L. Doty and Leonila Avalos, Spanish; Otto Becker, German; Francis Bruno Averardi, Italian; Dr. Donald H. Loughbridge, physics; E. L. Bikerbike, J. E. Lawrence and Antonio Gandara, chemistry; Ruth Goldman, Frances Schwartz and Theodore Raile, physical education; Jessie Bromilow, Genevieve Robinson, history; Elizabeth Hawkins, journalism; Dorothy Fox,

zoology; Dr. W. B. McDougall, botany; Thelma Littrell, mathematics. In the department of physics-optics, Dr. Elmer R. Jones, supervisor of refraction laboratory; W. B. Clark, Dr. J. C. Goodsell, Dr. Arthur E. Hoare, Carrie B. Hooker, Dr. Ernest A. Hutchinson, Percy C. Kinney, Dr. Harry J. Hoare and Leslie W. Scown, lecturers.

College of Engineering: Nathan C. Clark, instructor in electrical engineering; Captain Douglas Keeney, assistant in aeronautical engineering; A. E. Stevens, instructor in general engineering, and James M. Shoemaker, lecturer in aeronautical engineering.

College of Commerce and Business Administration: Thomas K. Urdahl, professor of banking and finance; Ford K. Edwards, instructor in transportation; Eugene A. Gilmore, instructor in economics; E. L. Overholt, assistant in business law; John P. Kennedy, lecturer in finance; Park J. Ewart, instructor in finance.

College of Pharmacy: Willard G. Smith.

College of Dentistry: Dr. G. H. McDavitt, prosthenic clinic; Dr. J. R. Feeney, Dr. J. C. Glazier and Dr. M. H. Mock, operative clinic; Dr. F. D. Wolfe, crown and bridge department; Ella C. Wing, bacteriology; Thelma M. Chase, dental hygiene, and C. W. Weaver, science laboratory.

College of Music: Lisa Roma, in charge of opera department; Pauline Alderman, assistant professor of harmony.

School of Public Administration (Los Angeles Civic Center School): S. B. Barnes, city building code; Clifford M. Davis, municipal accounting; Herbert E. Hayes, structural mechanics; Burton L. Hunter, public administration; Jessie W. Luther and Gladys C. Miller, municipal library courses.

University College (evening division): Lee Roy Smith, education; N. R. Wilson, sociology; Dorothy Yost, scenario writing; George Overstrum, geology; Clayton F. Palmer, education; Robert M. Shipley, merchandising.

Library: Mrs. W. C. McCarty, Lois King and Mary C. Hamilton.

Department of Musical Organizations: John T. Boudreau, instructor of Trojan band.

Athletic Department: Dr. Walter Fiesler, associate medical director; F. F. Twogood, assistant to the director of intercollegiate athletics.

Los Angeles University of International Relations (affiliated with the University of Southern California): John F. B. Carruthers, research fellow.

The new staff members at Southern California come to the Southwest from the University of Washington, Columbia University, Cornell University, University of Kansas, New York University, University of Iowa, University of Colorado, University of California at Berkeley, University of Illinois, California State Board of Education, James Millikin University, Witwatersrand University (Johannesburg, South Africa), Army Air Reserves, University of Budapest, Otaru (Japan), Oregon, North Carolina and the University of Wisconsin.

PROTESTS AGAINST THE ACADEMIC DISMISSALS IN MISSISSIPPI

ACCORDING to a correspondent of the New York *Times*, the American Chemical Society wound up its eightieth convention with a vigorous protest by the division of chemical education against the action of Governor Bilbo of Mississippi in June in summarily dismissing members of the faculties of state-supported schools and colleges. The resolution states that:

> Apparently this move was dictated entirely by political motives with no relation to the educational interests of the institutions or the state. The chancellor of the university and some of the most able men in his faculty were affected. Among these was Dr. J. N. Swan, chairman of the division of chemical education of the American Chemical Society, who had served long and efficiently as a professor of chemistry.
>
> This action has aroused indignant opposition within the state, as expressed by educational leaders and by the press. We wish to add our protest to theirs. Further, we caution members of this division against accepting positions in these institutions until steps have been taken to prevent a recurrence of this unfortunate situation.
>
> We wish also to raise the question of the acceptance in the future of transfer credit from these institutions unless this condition is corrected.

Professor Swan, who was present at the meeting, was reelected chairman of the division to make the protest more emphatic.

It was brought out at the meeting that the American Medical Association recently took similar action against the interference of politics with education by serving notice on Governor Bilbo that unless he reinstated the members dismissed from the faculty of medicine, that body would exert its influence to prevent any graduate of the Mississippi Medical School from practicing in any other state in the union.

Soon after that Governor Bilbo reinstated all those medical teachers who were willing to return, the head of the faculty consenting to do so upon condition that he be entirely independent of the new chancellor and that he be given an increase in salary. Governor Bilbo is reported to have accepted these conditions.

Other academic bodies which have made protest include the American Association of University Professors, the Southern Association of Schools and Colleges and the Mississippi Education Association.

THE UNITED STATES GOVERNMENT AND NEGRO EDUCATION

A NEW position has recently been created in the U. S. Office of Education, and a specialist in Negro education has been assigned to the office. Its specific and immediate function is to serve as a clearing-house of information concerning Negro education; to conduct, direct and encourage educational research; to stimulate interest in the present status and future possibilities of Negro education, and to assist in coordinating the various researches, activities and interests of Negro schools and of persons concerned in Negro education and related matters.

In realizing these purposes the office will endeavor to collect facts of all kinds bearing directly and indirectly on Negro education and make periodic digests of educational literature dealing with or which may be of use to Negro education. The specialist in this office will visit schools and communities throughout the country, make contacts with school officials and others who are interested in Negro education, attend and address meetings of educational and other organizations on topics relating to his specialty and act as consultant on Negro education with educators and others desiring his services. In performing his duties he will endeavor to confer with and utilize the services of specially qualified persons in the various fields throughout the country and will attempt to focus on the problems of Negro education all the expert knowledge, techniques and educational forces available in the nation.

The Secretary of the Interior, on the recommendation of the Commissioner of Education, has appointed Dr. Ambrose Caliver to this new post. Professor Caliver has recently completed his work for the Ph.D. degree at Teachers College, Columbia University, where he majored in college administration and instruction and minored in educational personnel research. He is the first Negro in the country to meet the requirements for the Ph.D. degree in this field. He has had wide experience in both public and private education and in elementary and secondary schools as well as in collegiate work, and his experience in matters of a social and civic nature has been broad.

Dr. Caliver is a native of Virginia and received his high-school training in Knoxville, Tennessee. He received his B.A. degree from Knoxville College and his M.A. degree from the University of Wisconsin. He has also studied at Harvard University and Tuskegee Institute. His contributions to educational literature have been many and varied, both in the field of research and in general education.

Dr. Caliver, who was formerly dean of Fisk University, in Nashville, had already accepted a teaching post at Howard University in Washington, which latter position he resigned to accept the government appointment, effective on September 1.

Because of its uniqueness and strategic situation it is felt that the position offers large opportunities for service both to the Negro race and to the nation. Although the major emphasis will be on public elementary and secondary education, any question or problem relating to Negro education in general will receive careful and interested attention. The new office is located in the U. S. Office of Education of the Department of the Interior.

EDUCATIONAL NOTES AND NEWS

THE Reverend Aloysius J. Hogan has been named president of Fordham University, succeeding the Reverend William J. Duane, who on July 31 completed his term of six years at the head of the university.

THE appointment of Dr. George A. Steele as

president of the Maryland College for Women at Lutherville has been announced by William H. Moore, Jr., president of the board of trustees. Dr. Steele was formerly professor of Latin and Greek at the Baltimore City College.

DR. S. J. COON, professor of business administration at the University of Washington, was recently announced as acting dean of the college of business administration at that institution. Dr. Coon, who has been a member of the Washington faculty since 1927, was dean of the school of business administration at the University of Montana from 1919 to 1927.

BUNYAN Y. TYNER, for the last twelve years dean of State Teachers College, Fredericksburg, Virginia, has been elected acting dean of Winthrop College for the 1930–31 session.

DR. HENRY H. HILL, formerly head of the department of school administration of the University of Kentucky, has been appointed superintendent of schools of Lexington, Kentucky.

AMONG the recent faculty appointments to Yale University are James Harvey Rogers to the position of professor of political economy; Ulrich Bonnell Phillips, who will be professor of American history; Dr. John Farquhar Fulton, who will be Sterling professor of physiology; Dr. J. G. Dusser de Barenne, of the University of Utrecht, who has been appointed professor of physiology.

VISITING professors at Yale this year will be Professor Harold J. Laski, of the London School of Economics, visiting professor of government and law; Raymond Leslie Buell, of New York City, research director of the Foreign Policy Association, visiting professor of government; Professor Albert Beebe White, of the University of Minnesota, visiting professor of history; Professor Duane Reed Stuart, of Princeton, visiting professor of Latin, and Thurman Wesley Arnold, dean and professor of law at the University of Virginia, visiting professor of law.

NEW appointments to the faculty of Northwestern University include, in the college of liberal arts, Addison Hibbard, of the University of North Carolina, dean of the college and professor of English; Arthur E. Case, professor of English; Paul Haensel, formerly of the University of Gratz, professor of economics, and J. William Buchanan, associate professor of zoology. In the school of education, Paul A. Witty has been added as professor of education; Frank M. McKibben, professor of religious education; Henry J. Otto, assistant professor of education; Milton G. Geil, assistant professor of education, and Esther Scheuer and R. W. Fairchild, instructors. Additions to the faculty of the law school are Newman F. Baker, of Tulane University; Harold C. Havighurst, of the University of West Virginia, and Alexander N. Sack, a scholar of international reputation in international financial law. New members of the faculty of the school of commerce are Delbert J. Duncan, assistant professor of organization and management; Louis W. McKelvey, assistant professor of English and business correspondence, and Lyndon O. Brown, instructor in marketing and advertising.

THE Princeton Theological Seminary has announced the appointment of Dr. John E. Kuizenga, president of the Western Theological Seminary, to the chair of apologetics and Christian ethics. He will begin his new duties on the opening of the academic year.

PROFESSOR HAROLD B. STANTON, professor of Romance languages at the North Carolina College for Women, has been appointed professor of languages at the University of New Hampshire.

CHARLES NEWMAN WUNDER, who has served as professor of mathematics and head of the department at the University of Mississippi since 1926, has been made professor of physics and dean of men at Atlantic University, Virginia Beach, Virginia.

DR. PAUL L. WHITELY, recently assistant professor of psychology at Colgate University, has assumed his duties as head of the department of psychology at Franklin and Marshall College.

THE appointment of Miss Sabra W. Vought, formerly librarian at Pennsylvania State College, as librarian and director of library service for the federal Office of Education has been announced.

DR. ERNEST S. GRIFFITH, formerly professor in the School of Citizenship and Public Affairs

at Syracuse University and last year a member of the faculty at Harvard University, has returned to Syracuse to fill the newly created position of dean of the lower division.

PROFESSOR EDGAR S. FURNISS, chairman of the department of economics, sociology and government of Yale University, has succeeded Dean Wilbur L. Cross, who has become dean emeritus.

FRANK ERNEST WORK, professor of history at Muskingum College, has accepted the post of adviser to the department of education of the Abyssinian government, and will begin his duties in October.

CARL H. MILAM, secretary of the American Library Association, has accepted membership on the National Council of Intellectual Cooperation for the United States. The council is being organized by the Inter-American Institute of Intellectual Cooperation, established last February in Havana. Its aim is to cooperate with other national councils in the "study and solution of the problems of intellectual life in the Americas."

DR. H. G. MOULTON, of the Brookings Institution in Washington, was designated by the State Department as a third United States delegate to the nineteenth session of the International Institute of Statistics at Tokyo, September 15. The two delegates previously appointed were Dr. Walter F. Willcox, of Cornell University, and Halleck A. Butts, American commercial attaché at Tokyo.

DR. FRANK CODY, superintendent of schools at Detroit, Michigan, announces that the Detroit Board of Education has just named a school building for Dr. A. E. Winship, editor of *The Journal of Education*.

THE Reverend Dr. John C. Bowman, president emeritus of Franklin and Marshall Theological Seminary, Lancaster, Pennsylvania, died on September 18.

MR. MICHAEL B. RICH, president of the board of directors of Williamsport-Dickinson Seminary, was killed in an automobile accident on August 8.

PROFESSOR RICHARD C. HAY, a member of the faculty of the Tuck School of Finance at Dartmouth College, was killed in an automobile accident on September 15.

DR. SHERWOOD OWEN DICKERMAN, Lawrence professor of Greek language and literature at Williams College and visiting professor of Greek at Yale, died at his home on September 19 at the age of fifty-five.

FIRE believed to have been caused by lightning has destroyed the interior of West Hall, the first building constructed at Colgate University, with a loss of $50,000 to $100,000.

THE University of Texas and the University of Mexico have made plans for an annual exchange of students and instructors. Mr. E. D. Farmer, a rancher, of Texas, has given $205,000 to the state university to finance the exchange, and the legislature has approved the gift. The interest on this money will support eight student scholarships of $1,000 each and also provide for four exchange professors each year.

THE Fourth International Congress of Sociology is to be held in Mexico City from April 19 to 26, 1931, according to an announcement by Dr. Don Antonio Caso, a member of the permanent committee of the International Sociological Institute.

THE forty-second congress and health exhibition of the Royal Sanitary Institute will, at the invitation of the corporation, be held next year in Glasgow from July 4 to July 11, under the presidency of Sir Henry Mechan.

VOCATIONAL schools for women will be established in Lima, Peru, next year, according to the department of education. They will be of three classifications: Domestic science, practical arts and commerce. The courses are to be for three years, after which graduates will receive certificates of competence.

CONTINUING its educational program in the border states, the Ministry of Public Education of Mexico will build fifty rural schools in the state of Nuevo Leon. This federal assistance was granted as a result of a request by Governor José Benitez, of Nuevo Leon. The federal government is anxious to establish more schools near the United States boundary so that Mexican children will cease going to schools across the border.

IN an effort to decrease illiteracy the government of Portugal is establishing night schools throughout the country. Pamphlets are being distributed by automobile throughout the agricultural districts, urging parents to send their children to these schools and pointing out that elementary education is compulsory. Night schools already have been established in Lisbon and Porto, and hundreds of illiterates are taking advantage of the opportunity to learn to read and write. It is estimated that from 70 to 75 per cent. of the Portuguese can neither read nor write.

THE Bodleian Library Commission of Oxford University, England, has arrived in New York on its tour of cities in this country and Canada, to study libraries for assistance in planning the extension of the Oxford University Library. The commission was entertained at luncheon by the Rockefeller Foundation at the Bankers Club and later visited the New York Public Library. Sir Henry Miers, who recently retired from the vice chancellorship of the University of Manchester, is chairman of the commission. The other members are Sir Frederic G. Kenyon, director of the British Museum; Sir Edmund Chambers, Shakespeare scholar, accompanied by Lady Chambers; George N. Clark, historian; Henry R. K. Harrod, economist, and Kenneth Sisam, of the Oxford University Press. Dr. William W. Bishop, librarian of the University of Michigan, is accompanying the commission on its tour. Also with the group are Wilhelm Munthe, librarian of the University of Oslo, Norway, and Mr. Sindinge-Larsen, architect, who also plan to study American library methods.

TURKEY'S first teachers' congress, held this week in Angora, voted to create Boy Scout corps in all secondary schools as a means of encouraging sports and healthful outdoor exercise. In summer youths will be encouraged to take outings in Anatolia. Gymnastic instructors and equipment will be provided and sports organizations will be started in the schools, after which students will be forbidden to join outside sports clubs in preference to representing their own schools. A room is to be reserved in each building for a gymnasium. Because of the bad financial situation, Turkey must be content this year with the existing schools and no new ones will be built, despite the great need. Improvements in teaching may be undertaken to offset present conditions. An innovation will be the creation of small school libraries. As yet there is a great lack of literature. Teaching grammar still suffers from hundreds of superannuated rhetoric rules and esthetic principles borrowed from the personal taste of old-time professors.

ANNOUNCEMENT has been made of the formation of the American Interracial Seminar by a representative group interested in the improvement of race relations in the United States. The first session of the seminar will be held at various points in the South, from November 11 to 21, upon the topic of "Negro Progress in the South." Professor Herbert A. Miller, of Ohio State University, is the chairman of the seminar. The executive director is Hubert C. Herring. Over fifty persons have accepted membership in the committee of sponsors. The purpose of the American Interracial Seminar, which is described as a very informal organization, is to consider interracial situations in the United States and the means of their improvement. The seminar is non-partisan and non-propagandist and will pass no resolutions favoring any particular proposal for the improvement of race relations. It aims to provide a meeting place for persons of a variety of experience who have widely differing ideas as to what methods should be used. The 1930 session is being held as an experiment. Meetings will be held in Washington, D. C.; Richmond and Hampton, Virginia; Raleigh, North Carolina; Birmingham, Alabama; Atlanta, Georgia; Nashville, Tennessee, and other points. It is planned, if there is a demand for this type of seminar, to hold sessions in the future upon such topics as "The Oriental on the Pacific Coast," "The Mexican in the Southwest," "The Status of the American Indian," etc.

THE London *Times* reports that Mysore, India, is entering upon a new system of university education. This system has been designed to meet the needs of the state and to increase the chances of employment of the educated classes, for unemployment in that class has become a source of serious anxiety. The purpose of the new system is to divert a number of stu-

dents, at the intermediate stage, into technical courses. The medical and engineering colleges are also being developed. The institution of the Women's Intermediate College at Bangalore should do a great deal to foster the growth of higher education of women in the state. A site for the medical college has been chosen opposite the hospital, and the college buildings are now rising. In the Department of Health the government has been greatly assisted by the Rockefeller Foundation. It lent an expert who has made surveys in various parts of the state and presented recommendations. A sanitary engineer also will shortly take up his headquarters in Bangalore. The main features of the new scheme are the separation of the sanitary department from the medical department and the division of the department of health into bureaus for the various aspects of public health.

DISCUSSION

METHODS OF WORK OF THE HIGHER EDUCATIONAL INSTITUTIONS IN SOVIET RUSSIA

EVERY effort of leading Soviet groups in the field of higher education has been directed towards a most definite reform of the entire teaching method as a result of the requirements of the new type of student and of new schools in general. Customarily every new method is energetically supported by the students who, unlike the professors, are already long ago in the majority revolutionary proletarians, and naturally support such reforms. The new student, in particular the student who has come to a higher educational institution from the factory machine, is not able to listen to long lectures; he can not stand passivity and verbalism. He has been accustomed in the shop or factory section to concrete problems, to grasp a subject by direct study and not from strange words. The lengthening of the number of laboratory hours and of actual practical work in general meets most energetic support of the new student. Moreover the latter is characterized by extraordinarily great activity, a passionate desire to study, and the passivity of old study methods employed in the higher schools therefore does not satisfy him at all.

A definite change has taken place in the higher school as the result of a number of conferences, congresses and meetings. The academic year 1928–29 very clearly gives evidence of this.

The lecture as a method of teaching is at present still of comparatively great significance. Approximately half, perhaps slightly less, of the entire program is occupied by lectures with individual reports and examinations. The rest of the time is devoted to laboratory, practical, seminar, group and other methods of study work.

It is hardly necessary to explain the laboratory work in natural sciences and historical subjects, and the work of the various seminars is also quite easily understood. However, the following explanation is in order. The term "seminar" or "seminaries" has a wider use and is more commonly employed than in the West, covering nearly all forms of student group work connected with independent preparation of a short theme. This has a purely compilative character in the first study courses, acquiring a more or less research form in later courses. There are several such seminars in every course, often called pre-seminary or pre-seminaries, a term well known in the West as well.

Besides seminaries there are practical work groups in mathematics, physics, chemistry, mechanics and similar subjects. Thus lectures, seminaries, practical and laboratory work are methods ordinarily employed in higher educational schools.

The question of actual practice work must also be given attention. Particularly here, a great forward movement is found, which was mentioned above. Up till recently the practical work of the majority of the higher schools during the summer vacations lasted from two to three months yearly. There were from one to three such practical work periods, depending on the type of course. Last year the majority of our higher technical schools adopted the system of continuous actual practical work, and commencing with this year the majority of schools of all types will follow that plan.

Foreign literature on the subject of the

higher schools describes analogous practices in one country, America. Commencing with 1906 several of the higher schools in the United States, led by the University of Cincinnati, have adopted the so-called "cooperative plan." The initiator of this was an engineer, Schneider, well known both in America and the Soviet Republic. Despite serious objections on the part of conservative professors of America, he introduced this experiment in the University of Cincinnati. A number of other technical schools followed the example set by adopting the plan either completely or partially. Such well-known schools as New York University, the Massachusetts Institute of Technology, Drexel Institute in Philadelphia, the College of Medical Evangelists in Los Angeles, etc., have adopted this plan.

It is well known that the value of this system lies in the fact that the practical work is distributed over a more or less lengthy period taking regular turn with theoretical studies. Schneider introduces such practical work over a five-year course, eleven-month school program. In Russia this has been done more cautiously. During the first year, or to be more exact, the first six months, continuous practical training is given only one week per month for actual work at production. The students devote the remaining three weeks to school study and attendance. In the future, however, more time will be devoted to practical work. Thus if the relation last year was 1:3 it is intended to make it 1:2 this year, so that a third of the time will be given to production work by the student. From this year such higher educational institutions as the medical and social-economic faculties will adopt continuous practical work.

It is very easy to observe that the change in practical work is not merely a reform of one of the methods of teaching in the higher schools. It noticeably changes the entire method of teaching and is a genuine revolutionary step in the pedagogy of higher school institutions.

Even in the literal sense the social work of the students can not be considered a method although it is of great significance in the formation of the future specialist. Social work carried on by the students of higher schools, among the neighboring population, through various volunteer societies, by "Shefstvo" (patronage) is actually outside work but nevertheless is not of limited character.

The methods of checking knowledge acquired are closely connected with the methods of teaching. As a rule this is done by oral examination. During the course of the year the professor once or twice has a personal talk with the student. There are no formal examinations. It is natural that at seminars and group work the examination method is non-existent. Each student sums up his work automatically by regularly finishing his daily work. At the end of a course the majority of students have to prepare a thesis for which about six months' time is assigned. The medical faculty does not require this, replacing it by a state test on four basic subjects.

The Russian higher school pedagogy has thus been in general described. The foregoing establishes that there has been no real break with the past, for the lecture still plays a very great rôle. Attempts to introduce something in the order of an American middle-school Dalton Plan have not been successful. Only in a very few higher schools, chiefly military, has the Dalton Plan gained a more or less firm foothold. The lecture method is far less expensive than the group study method. One professor can handle from 200 to 300 students and even more, whereas under the latter method it is necessary to expend from fifteen to twenty times more. There is no doubt, however, that as the material basis for work becomes stronger the group system will become more wide-spread.

Every teaching plan of the higher school has three principal divisions: the general education field—subjects; preparation of specialists to grasp special subjects, and finally the special subjects themselves.

The first group contains a series of subjects of general social character; historical and dialectic materialism occupy an important place, the history of the trade union movement, political economy, etc. The study of foreign languages, physical and military training must be related to this group.

The second group has as its problem to prepare a general scientific foundation for special sciences whose study forms the chief aim of the school in question. Only professional schools are considered, for higher educational schools of general academic type do not exist in Rus-

sia. The number of subjects varies, depending on the specialty in question. Mathematics, mechanics, physics, chemistry, etc., are included in technical schools, and political economy and philosophy in social-economic schools.

The last group—that of special subjects—can not be described in general characteristics as it is determined by the specialty of each separate higher school.

The total number of school hours per week is generally thirty-six during a school year of nine to ten months. Analysis and preparatory program work are carried on by special, so-called subject commissions, formed by the teachers and professors of closely related subjects.

A. PINKEVICH
RECTOR OF THE SECOND UNIVERSITY,
MOSCOW

SPECIAL CORRESPONDENCE

BATTLESHIPS OR SCHOLARSHIPS

A SHORT time ago as I was talking with Mr. Davis, our minister to Panama, he said that in his experience a period of study in an American university often turned a young man who was bitterly anti-American into an American sympathizer. He said many of the Spanish American countries had a certain fear of us on account of our size and our known military strength. They suspected us of being imperialistic. But a sojourn in this country usually dispelled this idea and brought them back with quite a different mental attitude in regard to us.

Obviously our need of defense depends on the dangers that threaten us. These dangers are largely determined by the attitude toward us of surrounding countries. If they are all friendly, there is little need of powerful armaments.

I believe the naval register credits us with fifteen battleships. The most modern of these cost $45,000,000 apiece, enough to endow any but four or five of our largest universities or to build twelve hundred miles of concrete highway.

If we put this expense on an annual basis, it looks like this. Interest on $45,000,000 at 4 per cent., $1,800,000. The life of a battleship is reckoned at twenty years. Depreciation would thus be $2,250,000 a year. Our battleships have each spent several millions since the war on modern equipment, such as anti-aircraft batteries and the like. We may put this cost conservatively at $400,000 a year. Each ship carries a complement of 1,200 to 1,300 men and 70 to 80 officers. The pay-roll approximates $100,000 a month or $1,200,000 for the year. After thirty years officers and men may retire on three quarters pay or they may be retired at any time for disability. If injured or killed, they or their dependents will draw pensions. This would represent a sum not less than $500,000 a year, in case there were no war, or a much larger sum in case there were any real fighting. The board of 1,200 men and 80 officers at fifty cents a day would amount to $220,000 a year. I have no figures as to the cost of operating a battleship for a year, but including the cost of coal, or fuel oil, electricity, ammunition and repairs, it would probably be at least $500,000. This would make a grand total of approximately $7,000,000 as the annual cost of maintaining a battleship. This is about the same as the cost of maintaining a great university like the University of Illinois, Yale or Harvard.

Seven million dollars would be sufficient for 7,000 scholarships at $1,000 each or 3,500 scholarships at $2,000 each. Two thousand dollars is the amount yielded by a Rhodes scholarship for study at Oxford and is at least twice as much as the average American student spends on a college year. Who can doubt that 3,500 international scholarships would do more to keep the peace of the world than one battleship? The Pan-American Bureau and the League of Nations should be actively interested in promoting such international study, for it means not merely peace but understanding and friendship and business and all those larger interests that a community of nations must develop along with the furling of the battle-flags.

HENRY S. CURTIS
MILWAUKEE, WISCONSIN

"EDUCATIONAL PREPAREDNESS VERSUS COMPULSORY MILITARY TRAINING" ONCE MORE

I READ with a great deal of interest Dean Freeman's article on "Educational Preparedness *versus* Compulsory Military Training,"[1] and I agree with him in most of his criticisms of the military course as now given. He is right in saying that "we need a larger concept of this type of training" and illustrates his point very well with the example of the chemistry student, who may be able to render more effective service for destroying armed foes—and unarmed persons, possibly friends, who may be in "hostile" territory.

This is only a part of Dean Freeman's plea for "adjusting military training to college level." There should be, says he, "a definite citizenship training [which] would also present an educational background against which the problems of military training, national preparedness and compulsory military drill can be viewed in a clear educational light." Then he goes on to say that

> A citizenship training on the college level should include most, if not all, of the following: A knowledge of American government; an adequate basis of history, perhaps a special course in American history; a knowledge of our great natural and national resources and the importance of their wise control and sound administration in our national life; personal hygiene and public health; physical education; a knowledge of social relations; an appreciation of the public relations and responsibilities involved in each student's specific profession.

All of which is very well except for one fundamental defect. That defect is the undue emphasis placed on nationalism. I do not recall that the word "nationalism" or "nationality" is used anywhere in the article, but "national" is, with all its implications, and the kind of training advocated centers around it. The gist of the article seems to be that military drill is not on a college level; it should be raised to that level and training for preparedness broadened to include other subjects essential to military success. Nowhere is there any suggestion of training for ways and means to avoid the necessity of a call to arms.

Any training for citizenship which is confined to national boundaries is defective. It tends to make our citizens look upon outsiders as potential, if not actual, enemies. As long as the world goes on in a condition of international anarchy we shall need defense. The League of Nations and the World Court constitute the first real start toward remedying that situation, but we stand aloof from both. Under present conditions we can not abandon the army and navy, but what the American citizen needs far more than training for military defense is training for friendship. Military preparedness is a threat; good-will is an invitation to friendship. Both are costly, but the latter is far less expensive in men and money.

In an article published several years ago criticizing compulsory military drill I threw out a challenge to the War Department, to the institutions maintaining military training and to Congress to put training for friendship on a par with military training. If military training was to be required, then training for international friendship should be required. Several individuals responded favorably, but neither the Secretary of War nor any institution did. Wisconsin had already made military drill optional and of course any student could elect international relations. The challenge still stands.

DAVID Y. THOMAS
UNIVERSITY OF ARKANSAS

[1] SCHOOL AND SOCIETY, August 9.

QUOTATIONS

THE COLLEGE MIND

PRESIDENT HOPKINS, of Dartmouth, has for some years accustomed us to look to his writings and addresses for frank and instructive views about college education to-day. Not an iconoclast or hot reformer, he is an intense educational realist, in the sense that he is always anxious to know what the facts are, what is actually happening in our higher institutions of learning, what young men and women are thinking, what can be done by professors and in-

structors to establish more inspiring and fruitful contacts with students. Yesterday, at the opening of the college year in Hanover, Dr. Hopkins spoke to the assembled faculty and undergraduates with a seriousness and force quite unusual in such welcoming exercises. He took for his subject "The College Mind," which he sought to analyze in its chief manifestations, complex and contradictory as these often seem to be. No one has more closely studied the ways in which the youthful intellect takes or rejects impressions and color when "exposed to culture," as President Wilson used to say grimly that some Princeton students had been without in the least being infected. But President Hopkins, after long and minute study of the various traits which enter into "the true portrait of the American college," thus limns it:

> It would show a community in which generosity of spirit and graces of culture are predominant, where eagerness for wisdom and truth pervades the atmosphere, where the cooperative enterprise which we call education is carried on with mutual esteem and respect between faculty and students. It would likewise show, to be sure, some degree of self-seeking and self-indulgence, some effort to arrogate special privilege to individual selves, some pride of opinion, some intellectual arrogance and some close-mindedness, but these would appear, as they are, merely as blemishes upon the portrait. Each college generation has it within its power to refine or to smudge this portrait.

In urging Dartmouth students to seize upon every opportunity and agency for enlarging and strengthening their minds, Dr. Hopkins gave many of the old prescriptions but advanced certain fresh ones. He is as far as possible from being a formalist, and seems constantly to have before his eyes the fear that one good custom may corrupt the world. So he refuses to bind himself, and would not have college boys and girls bind themselves, by any "frozen" definitions of culture that have come down to us from the past. Useful and noble as these may have been, they sometimes fall out of touch with modern needs. It may well be that, while education is still mainly to be derived from literature and science and art and music and the established disciplines, something should be added which can be got only from sympathetic understanding of the great movements going on in the world to-day. Even in the single matter of esthetic appreciation, Dr. Hopkins believes that American young men can get almost as much from observing our great buildings, our imposing bridges, our immense groupings of manufacturing plants, our vast schemes of reclamation, our multiplying and successful plans for making cities more beautiful and the country landscape more resplendent, as from mere attention to painting and sculpture and ancient monuments. His final conclusion is:

> A new culture is growing up about us in America, not competitive with the old, but an extension of it, broader in stroke, bolder in spirit and more widely applicable to the needs of our common life. Herein lie new resources for esthetic satisfaction and spiritual inspiration. Herein lie new responsibilities for education. With all our getting and understanding, let us not fail in understanding this!—*The New York Times.*

REPORTS

THE NATIONAL ASSOCIATION OF COMMERCIAL TEACHER TRAINING INSTITUTIONS

IT seems appropriate that at the beginning of the new academic year, institutions, teachers and students concerned in and with commercial education should have brought to their attention the work and the purposes of the National Association of Commercial Teacher Training Institutions, together with the opportunities membership in the association affords them. The association closed its fiscal year on July 1, 1930, with twenty-nine institutional members and sixty-one associate members, an enrolment which includes such outstanding institutions engaged in commercial teacher training as New York University, Harvard University, Columbia University, University of California, University of Chicago, University of Southern California, and such recognized individual leaders in commercial education as Dr. Paul S. Lomax, Miss Ann Brewington, Dr. Earl W. Barnhart, Mr. J. O. Malott and others.

The National Association of Commercial

Teacher Training Institutions is organized to accomplish a four-fold purpose: (1) the improvement of curricula for the training of teachers of commercial subjects; (2) the elevation of standards for the certification of teachers of commercial subjects; (3) the promotion of research in commercial education; (4) the development of proper recognition of commercial education among schoolmen.

At the annual meetings of the association some phase of one of these objectives is considered. The 1929–30 meeting was concerned with the application of the principles of curriculum building for commercial teacher training which had been previously developed by the association. This discussion was organized around three major questions:

1. What technical subjects in the field of commerce should be required in undergraduate commercial teacher training curricula?
2. What specialized subjects in the field of commercial education should be required in undergraduate curricula?
3. What technical subjects in the field of commerce should be permitted, and what specialized subjects in the field of commercial education should be required for master's and doctor's degrees?

Of particular interest to those now engaged in commercial education or who contemplate entering upon that work is the substantial agreement among educators representing universities, teachers colleges and normal schools on the following points:

1. The recognition of a need for provision in the teacher training curricula of both teachers colleges and universities for an adequate preparation on a credit basis in technical subject-matter in the field of commerce.
2. The recognition of the fact that the day of the "all-round commercial teacher" has passed and that teachers must specialize through the agency of well-arranged majors and minors in one or two related fields of commerce in order to serve the cause of commercial education well in secondary schools.
3. The recognition of the fact that practical business experience is an essential part of the preparation of the teacher of business subjects.
4. The belief that the graduate curriculum should remain a flexible one, easily adaptable to the students' needs. Demonstration of proficiency in subject-matter as a prerequisite to graduate study was emphasized as of particular importance, as were also the need for maintaining a proper balance between subject-matter and theory, and for maintaining a sequence in the courses selected.

The National Association of Commercial Teacher Training Institutions was also active in its support of the Capper-Reed Vocational Education Bill.

Membership in the association is of two kinds, institutional and associate. Institutional membership is open to recognized universities, teachers colleges and normal schools, doing commercial teacher training, a membership which entitles the holder to a voting representative at all meetings of the association. This membership fee is $10 a year. Associate membership is open to instructors in institutions eligible for institutional membership, to graduate students and to fourth-year students specializing in commercial education in the schools eligible for membership, and to public school administrators and supervisors in charge of commercial education. The associate membership fee is $2 a year.

The officers and directors for the opening year 1930–31 are as follows: *Officers:* Miss Ann Brewington, University of Chicago, *president;* C. M. Yoder, Whitewater State Teachers College, *vice-president;* Helen Reynolds, Ohio University, *secretary;* Paul A. Carlson, Whitewater State Teachers College, *treasurer. Directors:* Dr. Paul S. Lomax, New York University; A. A. Miller, North Texas State Teachers College; F. G. Nichols, Harvard University; Alfred Sorenson, University of California; M. E. Studebaker, Ball State Teachers College.

Under Miss Brewington's able leadership the year 1930–31 in the National Association of Commercial Teacher Training Institutions promises to be a worth-while addition to and expansion of the work already done. The association welcomes all eligible institutions and individuals to membership—a membership which will keep the holder in touch with the most constructive and latest thought in the field of commercial teacher training. Applications for membership should be sent to the secretary at the School of Commerce, Ohio University, Athens, Ohio.

HELEN REYNOLDS,
Secretary

EDUCATIONAL RESEARCH AND STATISTICS

THE INTELLIGENCE AND ACHIEVEMENT OF SOUTHERN NEGRO CHILDREN

PREVIOUS studies of Southern Negro children have presented findings relative to intelligence with little said about achievement and its influence on the former. In so far as we know there are few published studies indicating the possible relation of the two factors excepting where grade placement was shown to have some slight influence on intelligence, as measured. In the latter group IQ's were seen as tending to rise with school grade.[1]

The present study is made with the intention of showing what weight should be assigned to actual educational achievement in the study of intelligence of Southern Negro children. Along with this will be indicated other interesting findings, some of a new and some of an old order which seem worth presenting.

THE SUBJECTS AND TESTS

The subjects of this study were 2,006 Southern Negro children; 1,019 of these were found in the Dallas, Texas, public schools, and 987 in the urban public schools of Oklahoma, a number of them coming from the city of Tulsa, but the remainder from smaller towns. Of the total 2,006 there were 900 boys and 1,106 girls. The ages range from six to twenty years. The school grades run from the fourth to the ninth grades, inclusive. The test administered to these subjects was the Otis Classification Test, which is composed of an educational test (Part I), and an intelligence test (Part II). The educational test, or achievement test, measures the performer's ability in the various school subjects combined adequately, but in none are the subject measures reliable enough to enable us to take a school subject score as a measure in that single subject. Consequently our achievement scores are of educational advancement in general and not in any particular subject. The intelligence score is somewhat the same as is represented by the ordinary Otis Intelligence Test score which is well known.[2]

[1] Thos. R. Garth and Calvin A. Whitley, "The Intelligence of Southern Negro Children," SCHOOL AND SOCIETY, 32: October 7, 1925.

[2] Arthur S. Otis, "Manual for Otis Classification Test," World Book Company, Yonkers.

PROBLEM

While, as indicated, the immediate problem for which we here seek a solution is (1) To what extent does educational achievement influence the group intelligence score of the Southern Negro child? other problems, again as indicated, come to light in handling the data. These other problems are: (2) What is the rate of mental and educational growth of these Negro subjects? (3) What is the educational retardation of these children? (4) What is their mental age for a school grade? (5) What is the educational age for the same? (6) What can we ascertain about the group IQ and the EQ and finally the AR—meaning by the last two the education quotient and the accomplishment ratio.

HANDLING THE DATA

It proved rather impractical to undertake handling separately the data of the children of the two neighboring commonwealths for comparative purposes in any thoroughgoing fashion for the reason that the numbers of cases for the upper grades for both state groups were inadequate, *viz.:*

		Grade						All grades
		4	5	6	7	8	9	
Texas—	Boys	85	123	94	58	29	32	421
	Girls	99	170	122	92	48	67	598
	Total	**184**	**293**	**216**	**150**	**77**	**99**	**1019**
Okla.—	Boys	137	146	105	30	42	19	479
	Girls	108	152	124	45	39	40	508
	Total	**245**	**298**	**229**	**75**	**81**	**59**	**987**
Texas and Oklahoma		**429**	**591**	**445**	**225**	**158**	**158**	**2006**

In consequence, the two state groups have been handled as one large group.

While in seeking to answer the questions set forth in the preceding section called "Problem" it would appear that we should answer question (1) first, the proper development of the interpretation of the data seems to indicate that this question (the measured influence of educational achievement on intelligence score) should wait for its answer until all the other questions had received attention. If this is done, then what

we shall have to say regarding this influence will seem to fall into its proper place in the argument.

For this reason Table I is seen to contain such facts as show for each chronological age

TABLE I

Showing Medians for Scores in Achievement and Intelligence for Each Age for the Negroes and Norms for Whites, also Overlapping of Negro Distributions on White Norms

Age yrs.	No.	Negro				White			
		Score Achiev.		Score Intel.		Norm ach.	Negro overl'p. Per cent.	Intel.	Negro overl'p. Per cent.
		Med.	Q	Med.	Q				
20.5	3	.....	.....	.....	.....	....	....	....	....
19.5	4	.....	.....	.....	.....	....	....	....	....
18.5	15	.....	.....	.....	.....	....	....	....	....
17.5	59	37.2	9.7	26.3	7.9	70	0	58	1
16.5	158	32.9	12.3	24.3	13.7	67	5	56	3
15.5	227	29.9	10.8	23.8	10.7	63	3	53	8
14.5	320	31.7	12.0	22.3	14.5	59	7	49	7
13.5	327	26.9	10.2	19.6	8.5	53	6	44	7
12.5	318	25.0	10.5	18.1	7.9	45	10	38	8
11.5	261	23.8	9.3	16.2	6.5	36	18	31	9
10.5	186	19.0	8.3	14.2	6.1	26	27	23	20
9.5	88	15.6	7.6	12.3	5.9	16	48	15	32
8.5	32	.....	.....	.....	.....	....	....	....	....
7.5	5	.....	.....	.....	.....	....	....	....	....
6.5	3	.....	.....	.....	.....	....	....	....	....
Total	2006								

the achievement and intelligence score for the Negroes and the norms for whites, also the overlapping of the Negro distributions on the white norms. The white norms are taken from the Otis Manual.[2]

Table II will indicate median chronological age for a school grade and for the total group, educational retardation, median test scores for intelligence and achievement, median mental age for grade and total; likewise educational age, group IQ and EQ and AR. Figs. 1 and 2 present certain of the tabulated facts in graphic form in such fashion as will enable the reader to understand better our effort at interpretation of the data.

TABLE II

Showing Chronological Age, Mental Age, Educational Age, IQ, AR and EQ of the Southern Negro Subjects for A Grade and the Overlapping for the Total Group

Grade Number	4 429	5 591	6 445	7 225	8 158	9 158	Total 2,006	O'lap on white norm per cent.
Chron. age								
Med.	11.6	12.6	13.5	14.6	15.2	16.1		
Ave.	11.7	12.8	13.5	14.5	14.7	15.5		
S.D.	1.9	1.9	1.7	1.6	1.8	1.5		
Mental age								
Med.	8.6	8.9	9.8	10.6	11.0	12.2		
Ave.	8.4	9.0	9.9	10.9	11.3	12.3		
S.D.	.9	1.3	1.6	1.7	1.9	1.9		
Ed. age								
Med.	8.7	9.5	10.6	11.3	11.2	11.7		
Ave.	8.8	9.5	10.6	11.5	11.6	12.2		
S.D.	1.0	1.2	1.1	1.8	1.7	2.0		
IQ Otis								
Med.	77.1	75.9	76.7	79.7	81.3	85.6	77.9	8
Ave.	77.4	77.2	77.4	78.1	82.5	87.0	78.2	
S.D.	14.2	15.5	15.3	15.5	16.1	14.7	15	
IQ Terman								
Med.	73.1	72.2	73.7	75.8	76.7	79.6	74.2	7
Ave.	72.1	73.6	73.6	77.4	77.7	78.2	75.8	
S.D.	14.5	16.5	7.9	14.4	18.1	15.1	16.3	
AR								
Med.	103	104	106	105	102	99	103.5	68
Ave.	103	103	107	107	102	98	103.2	
S.D.	8.8	10.3	12.7	10.7	11.1	11.5	10.9	
EQ								
Med.	75.3	74.2	78.4	79.7	76.5	79.1	76.6	9
Ave.	75.1	74.0	77.9	80.2	77.8	81.1	76.8	
S.D.	18.8	18.8	18.6	18.6	17.5	17.8	18.4	
Per cent. of retardation	62	61	62	60	54	52	Av. ret. 61.1	

Table III presents the correlations found between the several variables (four), as (1) intelligence measure (Score Test II), (2) grade placement, (3) educational achievement (Score Test I) and (4) age. This is followed by coefficients of partial correlation and a coefficient of multiple correlation along with a re-

gression equation from which were obtained the relative weights of the several factors. It seemed wise to eliminate age as a variable, which reduced the number to three.

An examination of Table I and Fig. 1 will reveal the fact that in both educational achievement score and intelligence score the Negroes, while starting out more like the whites in performance in both these measures, grow less like them from age to age until at the last there is a wide discrepancy. The overlappings present the situation quite clearly, for they are seen to start with 48 per cent. and 32 per cent. for achievement and intelligence, respectively, and

TABLE III

SHOWING VARIOUS CORRELATIONS

Variables: (1) Int. sc., (2) School grade, (3) Ach. sc., (4) Age coefficients of correlations and probable error (P.E.)

	(1)	(2)	(3)	(4)
(1)		.83	.86	.30
P.E.		(.005)	(.004)	(.011)
(2)			.66	.59
P.E.			(.008)	(.009)
(3)				.31
P.E.				(.011)

$\sqrt{12.4} - .847 \quad \sqrt{13.4} - .845 \quad \sqrt{23.4} - .621$

Taking $\sqrt{12.4}$ as $\sqrt{12}$; $\sqrt{13.4}$ as $\sqrt{13}$; $\sqrt{23.4}$ as 23

We have:

$\sqrt{12.3} = .781 \quad \sqrt{13.2} = .781 \quad \sqrt{23.1} = -.370$

$x_1 = b_{12.3}x_2 + b_{13.2}x_3 = .524x_2 + .524x_3$

$= 1.00x_2 + 1.00x_3$

or 1+1 (School grade and and achievement)

$R_1 (23) = .812$

$(P.E.) = (.005)$

end with measures 0 per cent. and 1 per cent., respectively, *i.e.*, from more or less similarity to decided dissimilarity. In intelligence the line for Negroes shows no spurt or sudden retardation as might be expected from traditional notions regarding the effects of puberty, but appears to rise at the same rate all along the way. The achievement line is retarded at fifteen years but recovers at sixteen. The writers do not find in these data evidence to support the notion that puberty causes a slowing down of mental process in the Negro. We believe that for the growing dissimilarity in the white

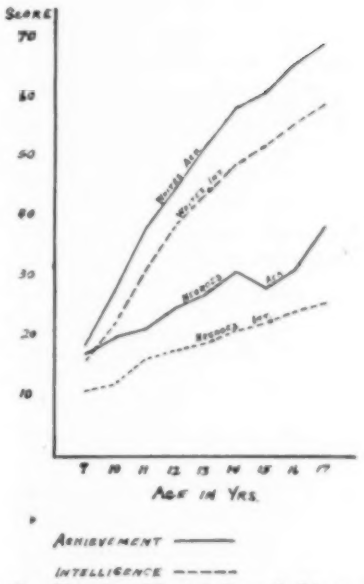

FIG. 1. Showing Mental Growth Lines of Whites and Negroes.

and Negro curves the cause must be found elsewhere. Whatever the factor of retardation in the case of the Negro it starts earlier than this physiological factor, and its power increases with increasing years. A similar finding for intelligence was made by Graham with Negroes in Atlanta, Georgia.[3]

It will readily be seen upon examination of Table II that the Southern Negro children who are here studied are much retarded educationally—the chronological age for a grade is considerably above that of the average white child[4] in the United States. On the average, the retardation is here shown to be 61.1 per cent. for the total 2,006. In the fourth and fifth grades the percentage of retardation is, respectively, 61.5 or 61.2, and in the sixth grade it is slightly more, 62.4. In the seventh grade it reaches its maximum, 69.3 per cent., and falls in the eighth and ninth grades to 53.2 per cent. and 51.2 per cent., respectively. If we note the measures indicating medians of mental age[2] (which were obtained from the intelligence scores) these ages are for a grade below the mental age for a grade for white children, and

[3] Virginia T. Graham, "Intelligence Studies of Negro Children in Atlanta, Ga.," U. S. Public Health Report No. 1127, 1927.

[4] Herbert Woodrow, "Brightness and Dullness of Children," p. 124, Lippincott, 1919.

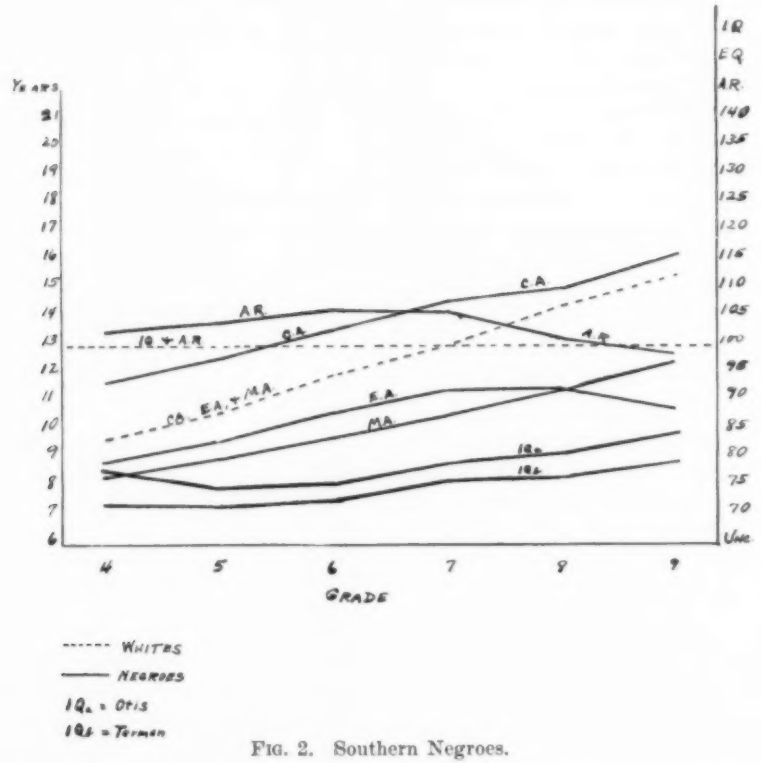

FIG. 2. Southern Negroes.

much below the corresponding Negro chronological age. The relation is best seen by examining the medians for the IQ for a grade. A reference to Fig. 2 will help in understanding the situation. It should be explained that two group IQ's were calculated, one according to Otis' method and the other according to the method in which the sixteen-year limit is used in obtaining Binet IQ's. It will be seen that the former, the Otis method, produces a higher IQ than the latter for a grade and on the average. The average group IQ for the former is seen to be 77.9 and for the latter 74.2, a difference of a little more than three points. This difference is a fact to be considered carefully, but we can not go into a technical discussion here. Otis[2] claims for this method greater trustworthiness in determining the group IQ.

It will be seen that the representative measure for educational age (derived from the score for Part I, achievement score) is above the corresponding mental age measure for a grade, excepting in the ninth grade. See Fig. 2. This is better seen if we examine the AR medians for a grade and the corresponding line in the figure. This indicates the ratio found between the measure of mentality and the measure of achievement. This ratio for whites has been found on the average to be 100. And in the case of these Negro children it is found to be on the average 103. The reason for the line for educational age being rather consistently above that of the mental age line might be found in the fact that educational age is partly the result of formal teaching, whereas the mental age is the result of what the individual "picks up" from his environment. If his environment is meager he picks up less than if it were rich, and besides there is little pressure brought to bear on him to take what is offered immediately outside his environment.

If it is desired to know the ratio between the chronological age and the educational age, it is given in Table II as the EQ. The EQ starts out as 75.3 in the fourth grade and falls slightly in the fifth. After that it is somewhat higher. On the average the EQ for these Negroes is seen to be quite similar to their IQ. According to

Otis's method these are respectively 76.6 and 77.9.

Probably a more convincing handling of the data is to be found in the correlations found in Table III. Here we have for these Negro children a correlation of .83 between intelligence score and school grade; one of .66 between school grade and achievement score, and one of .86 between intelligence and achievement score. Age correlates positively but not very high with intelligence (.30) and achievement (.31), but higher with school grade (.59). But because age has been found to be a factor whose influence is rather hard to determine, it was thought best to eliminate it entirely by partialing out the same in the further study of relation between the effects of achievement on intelligence as measured.[5]

We have, then, when we eliminate age, rather high correlation between intelligence and school grade, .847, and between intelligence and educational achievement, .845. These coefficients are practically the same. School grade and achievement, when age is eliminated, have not such a high correlation, *i.e.*, .621.

Having eliminated age and disregarding it altogether, we find intelligence and school grade, with achievement held constant, giving a correlation of .781. And likewise, if we correlate intelligence with achievement and hold school grade constant, we have the same correlation, .781. But if we find the correlation between school grade and achievement with intelligence eliminated we get a negative correlation, $-.37$.

One would surmise that the influence of the educational factors is strong in determining the intelligence score. In order to measure the combined influence of these educational factors—school grade and educational achievement—upon intelligence score we have obtained a multiple coefficient of correlation between them taken together and the latter. It is seen to be high, *i.e.*, .812. In order to determine the relative weights of these two factors on the intelligence score of the Southern Negro children, we have found the regression equation as given in Table III. Their relative weights are seen to be in the ratio of 1:1 in influencing the intelligence score.

[5] Frank N. Freeman, "Mental Tests," p. 67, Houghton Mifflin, 1926.

SUMMARY

1. The mental growth line of these Negro children starts at practically the same point as that of whites but steadily lags behind with increasing years. The retarding factor can not be that of pubic stress since it starts too early. The power of this retardation works with increasing momentum from year to year.

2. The educational retardation of these children is 61.1 per cent., though the retardation is less in the upper grades than in the lower grades.

3. The mental age of the Negroes is considerably below that of whites.

4. The chronological age of the Negroes is far above that of the whites for a grade.

5. According to the Otis method of computing group IQ we have a median IQ of 77.9, but according to the method in which we use the sixteen-year basis in calculation we get a median IQ of 74.2.

6. The educational age is above that of the mental age of the Negroes, and the AR is found to be consistently above that of the white, on the average 103.

7. The IQ and EQ according to Otis's method are for these Negroes about the same, being, respectively, 77.9 and 76.6.

8. The correlation between intelligence and the factors of education combined is quite high, .81. There is little left for any other factor.

9. School grade and educational achievement are seen to have equal weight in influencing the intelligence score, since they have a 1:1 ratio.

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THE INFLUENCE OF SELF-INTEREST UPON QUESTIONNAIRE REPLIES

THE number of investigators who have employed the questionnaire method is very large. This method is apparently still indispensable to medicine, the social sciences, education, religion, government, etc. At the present time it seems unlikely that the questionnaire method will ever be wholly discarded. But the very fact that it is so widely employed demands that its limitations be faced frankly and that it be used with the utmost discretion.

The questionnaire technique is peculiarly vulnerable when employed for the collection of personal information or when used with subjects who see (or who imagine they see) an opportunity to advance their personal interests by means of the returns made by them. For example, at certain universities the administrative officers have been known to send to members of the instructional staff blank forms on which the instructors are requested to insert data regarding the number of hours per week spent by them on various phases of their work, *e.g.*, "in the classroom," "grading quiz papers," "reading themes," "committee work," etc. Space is provided also for the insertion of the total number of hours per week that are spent at the task of being a university teacher.

Although many instructors probably attempt in all sincerity to supply the requested information it would be folly to suppose that *all* of them do so. Several years ago one of the writers happened to be at lunch with a group of young university teachers each of whom had just received the annual request for the foregoing information. The writer was much impressed (and distressed) by the fact that two of the youngest instructors debated earnestly the following propositions: (1) How many hours' work per week would seem "reasonable" to the administrative officers, and (2) how many hours per week are "expected of a university teacher." Such an experience is enough to make one hope that the administrator who employs this method will not take his assembled data too seriously. Certainly, the supposition that a slothful teacher will give a truthful report of his own slothfulness is a questionable one.

Professional students of psychology and education have sometimes sought to determine the industry of their students also by use of the questionnaire technique. The students are asked ordinarily to estimate (or to keep a record of) the number of hours spent by them at their various studies. The assembled data are accepted at face value and treated statistically; the conclusions then form the basis of magazine articles.

It is true that the investigator's qualifications regarding the problem of methodology are often stated carefully and at great length. Nevertheless, when the findings are given a second- or a third-hand recital (and this is often done) the qualifications are usually forgotten, and the general effect is not much different than would have been the case if the qualifications had been omitted from the original report. Because of this situation our educational literature is filled with numerous assertions of exceedingly doubtful validity.

A case in point is the frequently published assertion that dull students are more industrious than are bright ones. Numerous investigators have found by means of the questionnaire technique that there is a negative correlation between intelligence test scores and the amount of time spent in study.[1] These investigators have found also that the brighter students earn higher marks—a striking tribute to the value of superior intelligence.

As a means of studying the possible influence of self-interest upon student replies to questionnaires the following study was made by the writers of this article. The individual members of seven classes in educational psychology were asked to answer in writing the following question which was presented to them in mimeographed form: "How many times during the past week did you take a book from the reserve desk for work assigned in this class?"[2] In order to throw the students off guard, several additional and harmless questions were included in the questionnaire. The students were requested to sign their names to their reports, but they were assured that their answers would be regarded impersonally. They were told that a "study" was in progress but that under no circumstances would any student be penalized or rewarded because of his answers to the questions. The students were then urged to answer the several questions to the best of their ability.

At the library reserve desk it was possible to check the accuracy of the students' replies to

[1] A hasty survey of the literature has revealed 11 reports of negative correlation between intelligence test scores and the amount of time spent in study. These negative r's range from −.01 to −.46. Only two instances were found in which the questionnaire method had yielded a positive r between test intelligence and time spent in study.

[2] The students were told that if they had taken the same book more than once from the reserve desk they should count it as many times as they had signed for it.

the foregoing question. New cards had been inserted at the backs of the assigned books one week earlier. These cards were carefully preserved as rapidly as they were filled with signatures, and the cards that were partially filled with signatures were removed from the assigned books at the time of administering the questionnaire. It was thus possible to compare the estimated frequency of checking out books with the actual frequency of doing so. It is of course doubtful that under the foregoing circumstances the students would really know how many times they had checked out the assigned books. The purpose of this study, however, was that of ascertaining any general tendency towards overestimation or underestimation that might exist.

Table I sets forth certain data obtained by means of the foregoing procedure. It will be noted from Table I that seven out of eight groups *overestimated* the number of check-outs that they had made at the reserve desk. Only one group (of four students) underestimated the number of their check-outs. Moreover, for both instructors, the "C" and the "D" students returned the most exaggerated reports. When the data are treated collectively it is still evident that the "A" students exaggerated less than did the "B" students, and that the "B" students exaggerated less than did the "C" and the "D" students. Since most of the "F" students had already accepted failure as inevitable and had ceased attending class it was impossible to obtain an estimate of their tendency to exaggerate. However, the data of Table I seem to illustrate clearly the fact that the student's estimate of his industry bears a rather significant relation to his need for a higher mark.[3] It is not asserted that all the exaggerations set forth in Table I were *intentional deceptions*. As regards this possibility, the reader may judge for himself. However, it is obvious that when confidence is placed in the replies received from such questionnaires as this the confidence is misplaced. It therefore appears possible that the assertion that bright students study less than dull ones may really be based upon the fact that inferior students tend to exaggerate their studiousness more than do superior students.

TABLE I

PERCENTAGE OF OVERSTATEMENT OF EIGHT GROUPS OF STUDENTS WITH REFERENCE TO BOOKS CHECKED OUT AT THE LIBRARY RESERVE DESK AT OHIO UNIVERSITY

	Term mark	No. of cases	Total alleged check-outs	Total actual check-outs	Per cent. of overstatement
Instructor A's students	A	6	24	20	25
	B	18	59	37	59
	C	48	156	76	105
	D & F	20	63	34	85
		92			
Instructor B's students	A	4	16	17	−6
	B	16	48	38	26
	C	30	81	54	50
	D & F	20	67	42	59.5
		70			
Students of instructors A and B	A	10	40	37	8.1
	B	34	107	75	42.7
	C	78	237	130	82.3
	D & F	40	130	76	71.1
		162			

The foregoing hypothesis is partially supported by data that were assembled during an entire semester for 72 students who were pursuing a course in educational psychology. These data yielded a coefficient of correlation (Pearson product-moment method) of $+.03 \pm .07$ between the number of books taken from the reserve desk and centile ratings on the Ohio State University Psychological Examination.

It is true of course that a signature on a library card does not indicate any definite amount of time or of effort spent in study. However, the following table reveals that the coefficients of correlation that were obtained

[3] For the benefit of any who may wish to repeat this study it should perhaps be stated that the present study was made near the end of the semester and that the students were aware in most instances of their relative class standings. Moreover, the class standings at this late date were highly indicative of forthcoming semester marks. Frequent objective examinations had been administered by both writers during the course of the semester. Following each examination each student was apprised of his quiz mark and the distribution of the marks for the entire class was then written upon the blackboard. During a previous semester it had been found that when this procedure is followed students are able to predict their final marks with a rather high degree of precision.

between this objective measure of industry and various measures of scholastic achievement compare very favorably with the r's that have usually been obtained at the college level between intelligence test scores and scholastic achievement.

Let 1 = Centile rating on the Ohio State University Psychological Examination.
2 = Frequency with which students checked out the books assigned in a course in educational psychology.
3 = Attainment in six objective examinations which determined semester marks in educational psychology.
4 = Point-hour-ratios earned during the current semester.[4]
5 = Point-hour-ratios earned during the preceding semester.

	2	3	4	5
1	+.03	+.44	+.44	+.41
2		+.42	+.49	+.38

The foregoing r's have led the writers to conclude that the frequency with which students check books from the reserve desk (throughout an entire semester) is a fairly good measure of something very suggestive of industry. Moreover, the very low r between check-outs at the reserve desk and centile ratings on the OSU indicates that there is little or no relationship between test intelligence and the foregoing measure of student industry.

Of interest in connection with the present study are the findings of certain other investigators. Thelin and Scott, employing a series of English tests containing fictitious items, found that college students who were earning the best grades did the least bluffing.[5] Fenton found that inferior college students cheated during examinations more commonly than did superior students.[6] In their monumental work on deceit Hartshorne and May[7] report negative r's of −.50 to −.60 between intelligence and deceit. These studies, together with the findings presented in Table I, can lead to one conclusion only, namely, it is naïve to suppose that the lazy student (who feels the need of a higher mark than that which he has earned) would give an accurate report of his own laziness. Probably little or no reliance should be placed in students' statements of how much they study.

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[4] The point-hour-ratio is obtained by dividing the number of points which a student earns during a semester by the number of hours that he carried. One hour of work per week with a mark of C counts one point; if completed with a mark of B it counts 2 points; if a mark of A is obtained three points are secured. A mark of D adds no points to a student's credit. The point-hour-ratio furnishes a convenient estimate of the quality of a student's work in terms of all marks earned during a given period of time.

[5] E. Thelin and P. C. Scott, "An Investigation of Bluffing," *Amer. J. of Psychol.*, 40: 613–619, 1928.

[6] N. Fenton, "An Objective Study of Student Honesty during Examinations," SCHOOL AND SOCIETY, 26: 341–344, 1927.

[7] H. Hartshorne and M. A. May, "Studies in the Nature of Character," Vol. 1, "Studies in Deceit," Book I, pp. xxi–414, Book II, pp. viii–306, Macmillan, New York, 1928.

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